

PACIFIC PULP & PAPER •

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JULY
193

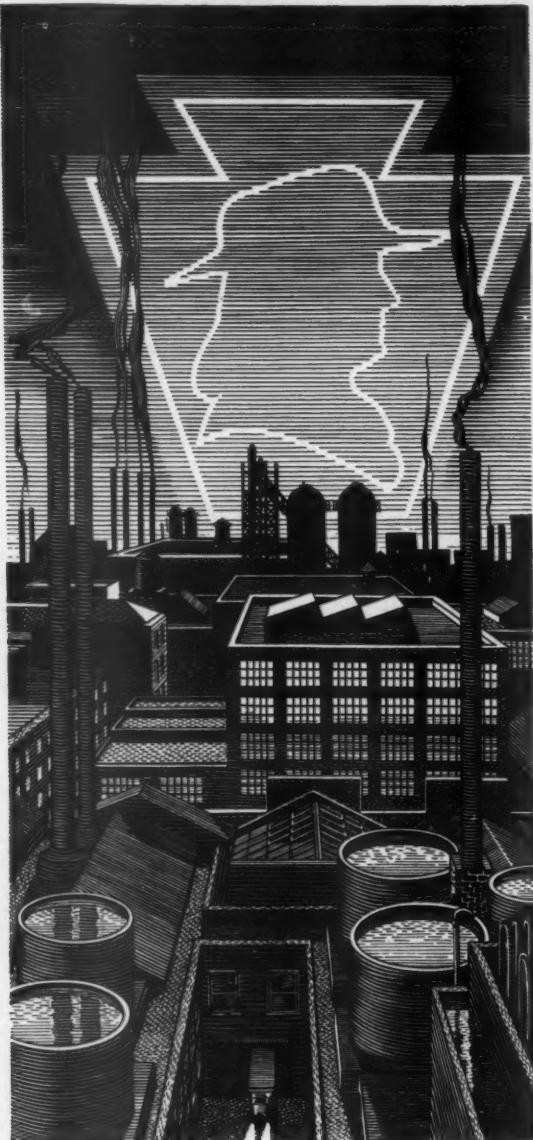
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Division of **PENNSYLVANIA**
SALT MFG. CO.

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TACOMA, WASHINGTON

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No. 7

THE MEASUREMENT OF PULP WOOD

By MYRON W. BLACK
Technical Director, Inland Empire Paper Co.

The principal raw material used by the pulp and paper mills of this country is wood. Large quantities of wood are bought and sold, used and accounted for each year and the different methods used for its measurement are varied and uncertain.

The pulp mills are in nearly all cases operated in the same district in which saw mills are operated and the larger quantities of logs are used by the saw mills. Also the saw mills have been the first ones in such districts and loggers and logging operators are most familiar with saw mill practice. The measurement of logs for saw mill operation is the log scale of which there are many different ones all more or less arbitrary, designed to measure the amount of lumber which may be sawed from a given log. The merits of the different scales and the satisfaction received from that method of measurement by the saw mills will not be discussed.

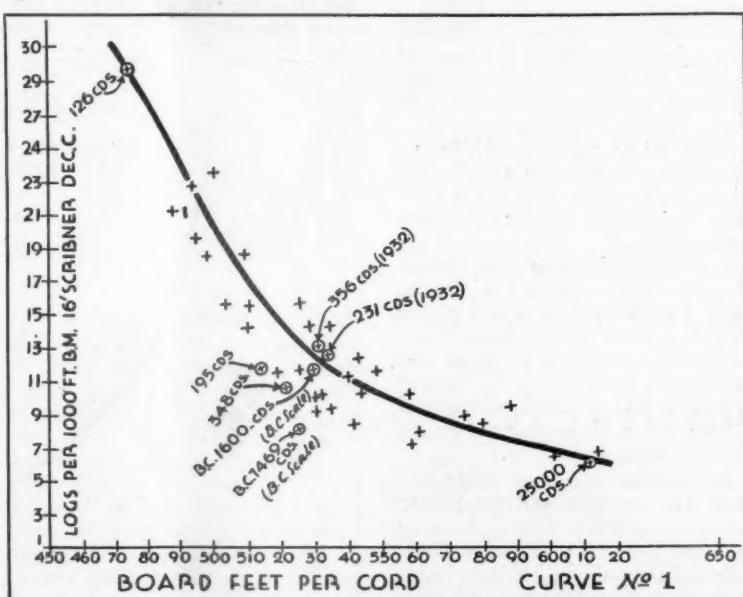
Logs for pulp mills are generally bought by the cord or by the thousand feet board measurement, measured by some log scale. Either method of measurement is very crude and gives greatly varying amounts of solid wood per unit of measurement. A discussion of some of these

variations is intended in this paper.

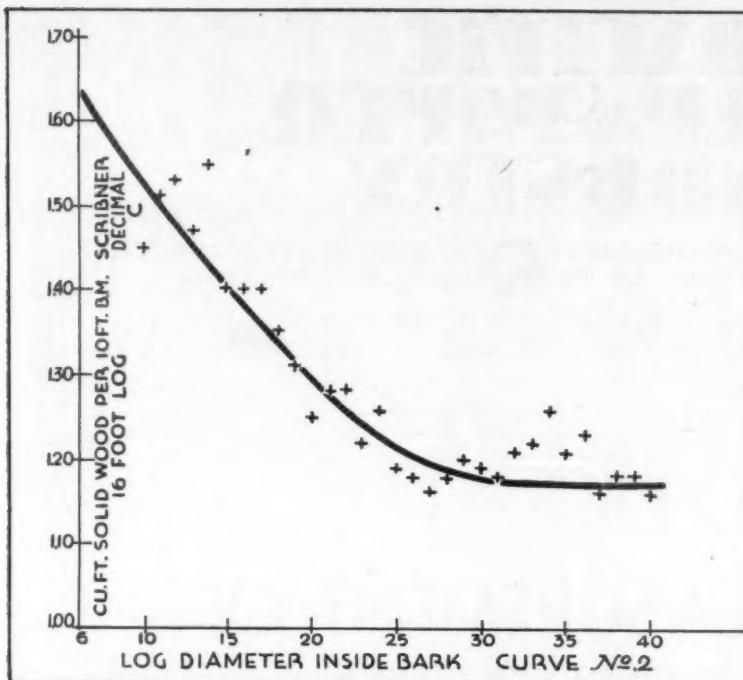
The ideal method of purchasing wood for a pulp mill is by dry weight. The difficulties of doing this are many and burdensome and a logging contractor would be very backward in accepting such a method. The next best method is by

solid volume of wood and this could be used in the same manner as a log scale is used if it were desired sufficiently.

Eastern practice for many years has used the cord as a unit of measurement. It is generally assumed that a cord is a pile of wood four



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feet by eight feet containing 128 cu. ft. of wood and voids. Cords vary, however, and we have heard of cords from 128 cu. ft. to nearly 200 cu. ft., according to locality and railroad rulings. The amount of solid wood in a 128 cu. ft. cord also varies greatly according to the size of the individual pieces and the amount of bark which they carry. It is axiomatic also that a thousand feet board measurement must also vary greatly in the amount of solid wood it contains for different sizes of logs, from the method in which log scales are derived.

All these variations are met with in a pulp mill when it is attempted to figure pulp produced from a unit of wood purchased whatever the method used in its measurement.

In order to more clearly understand these fluctuations a study was made to determine if possible what these variations are and how serious they may be.

It is railroad ruling that freight on pulp wood must be paid by the cord. Loggers prefer to sell by log scale. For these reasons records were available on cars of white fir and spruce pulp wood giving the number of logs, F.B.M. by Scribner Decimal C Rule and cordage on a 128 cu. ft. basis of many cars of pulpwood.

Representative cars of large and small logs were tabulated and plotted as shown in Curve No. 1 to show the variation in F.B.M. per cord on different sizes of logs. It must be remembered that each car is an aver-

age of many different sizes of logs so it is not surprising that many points fall far off the curve which was drawn.

This curve shows at once that there is a very serious variation in the cord and the log scale but since neither is a fixed quantity the curve is not fundamental. Apparently the accepted use of 500 F.B.M. per cord without specification of log sizes may lead to very serious errors in converting.

Next a study of the Decimal C Scale was made to find the variations in cubic feet of wood for different sizes of logs. For this work

it was assumed that the logs have no taper. Curve No. 2 was plotted from the values read from the scale. The inequalities of the scale are readily seen from the plot but since on an infinite number of logs of varying size these inequalities would not exist in the total scale it seemed fair to plot the line as drawn. The most outstanding thing shown by this curve is the fact that a pulp mill would actually receive 40 to 45 per cent more solid wood in logs under 10 inches in diameter per M.F.B.M. than in logs over 30 inches in diameter, also that over 30 inches the scale is directly proportional to the cubic contents of the log.

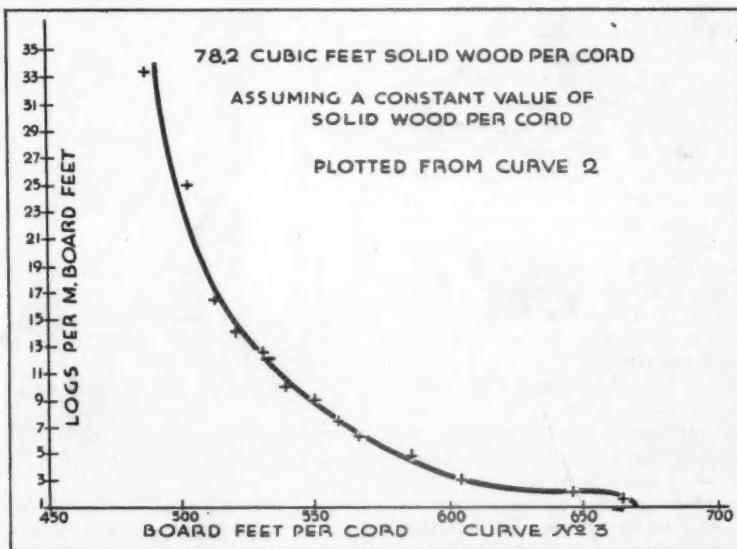
Curve No. 3 was plotted next assuming that a cord of wood contains 78.2 cu. ft. of solid wood. It is possible to plot this curve from Curve No. 2 and a scale table as will be seen on examination. This curve is obviously erroneous as a cord does not contain a fixed amount of solid wood but by superimposing Curve No. 3 on Curve No. 1 it is possible to show how a cord varies from a fixed amount of solid wood for various sizes.

Curve No. 4 in turn was plotted from the preceding tables and is fundamental for the data used.

Curve No. 5 is possibly the most interesting as more wood is bought on log scale, and was plotted directly from Curve No. 2 and a scale table.

These curves have all been plotted from comparatively meager data and two species only as found in the Inland Empire. Curve No. 4 is especially sensitive to the amount of bark found on the various sizes

(Concluded on page 20)



INTEREST GROWS IN SODIUM SULPHITE PROCESS

Pulpmakers have long been aware that the employment of sodium bisulphite cooking liquor instead of calcium bisulphite offers a number of advantages, but to date the major problems which immediately arise, when considering this process, have not been completely solved. The use of calcium bisulphite liquor still seems firmly entrenched.

Nevertheless, interest in the possibility of using the sodium sulphite process is increasing, and a number of chemists have eagerly sought the solution to the attendant problems, particularly those which have to do with the regeneration of the spent liquor. No definite results have yet been announced, but some progress has been made; and in Europe, the work has proceeded so far that at present one mill is using the process commercially.

Important Advantages

The sodium sulphite process offers several major features which would be of particular benefit to the industry on the Pacific Coast. In the first place, its successful use would solve the problem of waste liquor disposal. Secondly, the method permits the use of resinous woods, which indicates that it might make available to the pulp mill the immense stands of Douglas fir on the West Coast. Third, the combustion of the waste liquor will provide a part of the mill's steam requirements.

That this is quite feasible is indicated by the recent statement of a leader in the Coast industry to the effect that he was convinced that the process would make from Douglas fir a pulp as strong as kraft and as white as sulphite, and some day might replace the present sulphite methods in the western industry.

It is therefore of particular interest to note what has been done in recent months along this line in Europe. It is understood that a Norwegian plant has been using the sodium sulphite process for four or five months with very satisfactory results. It is claimed that the problem of regeneration of the cooking liquor has been solved, although other reports state that the waste

liquor is being sent to the sewer at present due to difficulties in this step. Thus, while every advantage offered by the method may not yet be available, it is significant that the process is being used on a commercial scale and making a satisfactory pulp.

In this connection it is of interest to note a description of this, the Haglund sulphite process, recently published in the Swedish Wood Pulp Journal. We quote it in full, as follows:

"There has been a long-felt want, in the manufacture of sulphite cellulose, to employ sodium bisulphite as cooking liquor instead of calcium bisulphite. A great deal of earnest research work has been carried out to solve this problem, but none of the multitude of the suggestions that have been put forward, has been put to general use.

"Of late, a process for the digestion with sodium bisulphite invented by Mr. Gustaf Haglund, which has been perfected by experiments made in collaboration with the Patent-aktiebolaget Grondal-Ramen, has been very much discussed, and as the process has now been tested on a full manufacturing scale with excellent results, a brief description of the same may be of interest.

"The process comprises the digestion proper, which differs in certain important respects from methods previously known, and new processes, together with apparatus specially designed and tested for the preparation of cooking liquor and for the regeneration of the alkali contained in the waste liquor from the digestion.

Digestion

"The process of digestion is carried out in two separate stages. First the chips are treated in an ordinary digester with a solution of sulphite or bisulphite that does not contain any excess SO_2 . In the course of this the bisulphite combines with the lignin without, however, any disintegration taking place. After this preparatory treatment the liquor is drawn off, if such should be required, and the quantity of SO_2 required for disintegration is added,

e. g., in the form of waste liquor from previous digestion or water, in either case sufficiently saturated with SO_2 , and the cooking is proceeded with until the desired quality of cellulose is obtained.

"Thanks to this division of the cooking process, so that excess SO_2 is present only during part of the digestion, considerable advantages are gained.

"Thus, by reason of the very effective digestion it is possible to employ woods of high resin contents for the production of sulphite cellulose, and a process has in this way been achieved by which high-grade cellulose can now be turned out from pine. In practice, this pine cellulose is made with a resin content of 0.1—0.2 o/o (ether extract); but in many cases the resin content has dropped below 0.1 o/o.

Cellulose Recovery Good

"By this new cooking process the fibre material is very gently dealt with during the digestion which results in a very good recovery of cellulose and an excellent quality of the cellulose thus obtained.

"The division into two cooking stages, and the possibilities of regulating the digestion process in other respects entail that the qualities of the pulp can be varied to a very great extent.

"A further advantage of the process is that large quantities of waste liquor can be added to the cooking liquor, whereby the liquor obtained after the conclusion of the cooking is so rich in organic matter, that not only it can be evaporated to the desired consistency without any extra fuel, but also will supply such a large surplus of combustion heat that the bulk of the steam required in a sulphite mill can be covered from this source.

"The liquor is evaporated to the desired consistency, incinerated and purged from sulphides and thiosulphates by a special process. The saline mixture thus obtained consists mainly of sodium sulphate, sodium carbonate and sodium sulphite, which have to be converted into bisulphite, respectively sul-

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phite, for use in the first stage of the digestion process.

"The saline mixture recovered from the regeneration of the liquor is dissolved in water and given an admixture of the proper quantity of finely crushed limestone, after which the resulting suspension is pumped through a battery of several towers or reaction chambers placed alongside each other.

"Here it encounters a current of SO_2 gas, through the action of which the limestone and the sodium sulphate are converted into sodium bisulphite and gypsum, which latter is precipitated. Sodium carbonate and sulphite are simultaneously converted into sodium bisulphite. After separating the gypsum, the solution is ready for use in the cooking process.

"The apparatus designed for the preparation of the cooking liquor has been found to be extremely suitable for the preparation of also calcium bisulphite cooking liquor. If such liquor is to be prepared, there is introduced in one end of the battery a suspension of finely ground limestone in water. This suspension is pumped through the various towers of the battery and encounters on its passage a current of SO_2 gas, which has been injected at the other end of the battery. By regulating the quantity of added limestone in proportion to the quantity of sulphur dioxide added, it is possible, irrespective of variations in temperature and the quality of lime, to obtain a crude liquor of any desired CaO content, within the limits of the solubility of the calcium bisulphite, and of any desired content of excess SO_2 , within the limits of the solubility of SO_2 in the crude liquor.

Chemical Consumption Low

"The complete Haglund process comprises as stated above a regeneration of the alkali. Still, the process is not necessarily confined to the regeneration process, for it has been found that also without regeneration the consumption of sodium sulphate (salt cake) per ton of cellulose is no higher than in a modern sulphate mill. As the recovery of cellulose is, on the other hand, much greater with this process than with the cellulose cooking by the sulphate method, the digestion of pine wood might be of great interest, even without the combination with a regeneration of the waste liquor."

As the article states, the process may be used without the feature of regeneration of the liquor, but the regeneration is one of the most at-

tractive advantages to the pulpmaker, both from the standpoint of economy in chemicals and elimination of waste disposal difficulties.

The crux of the matter is, of course, in the purging of the sulphides and thiosulphates from the concentrated and incinerated liquor, which the description explains as being done "by a special process". If this special process is the real solution, it may materially change methods in the pulp industry. If it is not yet completely worked out, as is indicated by some reports, further work may be necessary before adoption of the process is economically possible on the Pacific Coast.

Theory of Process Not New

The use of sodium sulphite as a pulping agent is not new in theory, although its commercial practice is recent. The use of neutral sodium sulphite was protected by Cross in 1880, but was held as of only theoretical interest. Other chemicals of similar nature have also been suggested, such as ammonium sulphite, a mixture of sodium sulphite and sodium acetate, and a mixture of sodium sulphite and sodium hydroxide.

In the Keebra process, wood is cooked with about 40 per cent of its weight in sodium sulphite. The spent liquor is incinerated as in the sulphate process, during which principally sodium carbonate, sodium sulphide and sodium sulphate are formed. The recovered ash is treated with sulphur dioxide, whereby sodium sulphite is reformed. However, due to the presence of sodium sulphide, sodium thiosulphate is also produced.

Reports on the Keebra process state that the yield of pulp from coniferous woods is about the same as by the sulphate process, although about 25 per cent more chemicals are required. The pulp produced approaches sulphate kraft in strength and is much lighter in color, in which respect it resembles unbleached sulphite.

Last year S. T. Aronovsky and Ross Aiken Gortner of the Minnesota Agricultural Experiment Station, St. Paul, Minn., gave the results of their experiments in pulping aspen wood with sodium sulphite. The wood was cooked at 170 degrees and 186 degrees C. for 2 and 12 hours, with 23.8 per cent and 47.6 per cent sodium sulphite (based on oven dry wood), equivalent, on the sodium basis, to 20 and 40 per cent sodium carbonate, respectively.

They reported that more total organic matter, volatile organic acids (as acetic acid), pentosans and reducing sugars are found in the residual liquors, than in those from corresponding water cooks. This high organic matter content of the waste liquor is pointed out in the description of the Haglund process.

No lignin was found in the sodium sulphite residual liquors, indicating that the lignin combines with the liquor to form compounds not segregated in the lignin determination. The residual wood contained less lignin (as shown by the 72 per cent sulphuric acid method), but no more pentosans and Cross and Bevan cellulose than did those of corresponding water cooks.

Their experiments also showed that the destruction of alpha-cellulose at the higher temperature and longer cooking duration is hindered by the sodium sulphite, giving greater pulp yield.

While every phase of the process using sodium bisulphite cooking liquor has not yet been worked out, sufficient progress has been made as to indicate its growing importance in the future. Should further research bring the results anticipated, the ultimate effect of the process on the Pacific Coast industry may be far-reaching indeed.

PACIFIC MILLS TO RUN TESTS ON TASMANIAN WOOD

Pacific Mills, Ltd., at Ocean Falls, B. C., has arranged to give a four days' test run of Tasmanian wood regarded by the Australian government as most likely to be of practical value in the manufacture of newsprint.

In the past Australian pulpwoods have been utilized with fair success as a base of kraft paper, but past experiments with a view to producing newsprint have been unsatisfactory. However, a species of soft-wood has been developed in Tasmanian that paper makers believe may solve their problem.

Henning Hulin, formerly general superintendent of Whalen Pulp & Paper Mills, which were taken over by the B. C. Pulp & Paper Co., is now managing Australian Paper Mills, which produce considerable volume of kraft paper, and thinks the Tasmanian wood will have a good chance.

The test run at Ocean Falls will be made early in August. The wood is being brought to Vancouver on the steamship *Waikawa*.

COAST MILLS OPERATING DESPITE LABOR STRIKES

Production of pulp and paper on the Pacific Coast has not yet been severely affected by the maritime strike which now holds the center of the stage, despite the fact that water shipments of all kinds have been practically shut off since the start of the strike on May 9.

The plants of the Puget Sound Pulp & Timber Co. at Bellingham and Anacortes shut down the last part of June, with the Bellingham plant scheduled to reopen shortly. Grays Harbor Pulp & Paper Co. at Hoquiam closed the pulp mill early in July when the fuel oil supply was depleted and could not be renewed from tankers. Otherwise the mills all continued to run, although in some cases production was not at full capacity.

Pulp Unions Conservative

With San Francisco just through a general strike, Portland with threats of a similar tie-up, and reports current that general strike action might be taken in Seattle, pulp mill operators were somewhat apprehensive that pulp mill workers might be called to strike in sympathy.

The danger of this was discounted, however, by one mill executive, who said, "I don't believe there is any real possibility of the pulp and paper mill unions going out. After all, they are a pretty level-headed bunch of men, and know that we have been stretching pretty far in order to keep them at work during the shipping tie-up. Were it not for the fact that we want to keep our crews employed, we would have every reason and excuse to close down the mills, which we have not done, and the workers know it."

Until the last year, A. F. L. unions were not organized in western mills. Now every mill is organized, the unions claiming 15,000 members here. The unions have made demands on the management of every mill in recent weeks, asking closed shop, increased wages, control of hours worked, etc., but these demands have not been pressed up to date.

Water shipments of pulp and paper are at a standstill, but large quantities are being shipped by rail

to take care of customers' requirements. One mill is reported to be shipping by rail into points as far as Massachusetts, paying a premium of about \$20 for rail shipment over the cost of water shipment; this on an item selling at \$60 per ton. "It cost us a lot of time and money to get these customers," the mill executive said, "and it is worth the added expense now to keep them."

Mills on the Olympic peninsula, at Port Angeles, have been unable to ship by boat, hence the largest rail shipments of freight since war days have been coming to Seattle by rail and ferry. Some of the paper was going to California, some to East Coast points. Some pulp was being shipped by rail, the remainder being stored in the expanded warehouses and in planing sheds of adjacent sawmills.

Boat loads of sulphur have been anchored a few hundred yards from pulp mills since early in May, without being able to discharge their cargo, although attempts were expected to be made shortly to break the blockade. In the meantime, sulphur was being shipped in to the mills by rail to meet their immediate requirements.

Fuel Supply Maintained

Fuel oil has been scarce but in most cases, with the exception of the Grays Harbor mill, supplies have been obtained in sufficient quantity to permit continued operation with auxiliary supplies of hogged fuel.

The Weyerhaeuser pulp mill was threatened by a walkout of woodroom employees when sawmill workers struck in sympathy with the longshoremen on June 20. The pulp workers did not go out, and sawmill No. 3 was "permitted" to operate to keep the pulp mill supplied with chips. The sawmill men went back to work in a few days, so further strike threats were averted.

One pulp mill which maintains its storage in an adjoining city sent a member of the pulp workers' union to request the longshoremen's union to permit movement of pulp from the mill to storage in the city so that the pulp workers might not be thrown out of employment by exhaustion of storage space at the mill. The longshore committee ac-

quiesced, on condition that the mill management sign an agreement that in future their pulp would be handled only by union labor in all its steps of manufacture until final consumption, and that a bond of \$5,000 guaranteeing it be filed with the union. The agreement was not signed.

At the same time that shipments from pulp and paper mills in Washington and Oregon were tied up except for rail transport, foreign newsprint was being permitted to be brought in for local newspapers, despite the prohibition of the movement of all kinds of goods. Longshoremen evidently feared to arouse the antagonism of newspapers any further and quietly unloaded their foreign-made newsprint for them.

Foreign Newsprint Gets In

The British motorship Silvercedar arrived in Seattle July 5 with 450 tons of newsprint from Cornerbrook, Nova Scotia, for a Seattle newspaper, presumably the Seattle Star. She had also discharged 650 tons of newsprint at Portland.

The story is told that when a vessel carrying foreign newsprint arrived in Portland to be unloaded, her shipment was consigned to a paper which had been taking a strong position on the side of labor and vigorously attacking the waterfront employers. Upon arrival at Portland, the vessel was by mistake taken to the pier where non-union men were working, and there unloaded. When the management of the newspaper discovered their foreign newsprint had been unloaded by non-union labor, they dared not take delivery of it, so the foreign paper is said to still repose on the docks of Portland. In their emergency, the newspaper involved undoubtedly expected local newsprint mills to take care of their temporary requirements.

As this is written there is indication of a settlement of the marine strike and the sympathy strikes of other unions. Although most Coast mills are operating at capacity for the present, how long they can continue without being able to make water shipments, is problematical, should the marine strike last much longer.



Meet the New Technical Director at Camas — Dr. Lathrop

Pulp and paper makers on the Coast are glad to welcome to their circle of fellowship and business friendship Dr. Elbert C. Lathrop, who recently joined the Crown Willamette Paper Co., Camas, Wash., as technical director.

To those not previously acquainted with Dr. Lathrop, a sketch of his past experience will be of interest, and will serve to introduce him to his contemporaries in the western industry.

Dr. Elbert C. Lathrop was born in Greensburg, Indiana, October 6, 1885. He completed his secondary education at Portland Academy, Portland, Oregon, and graduated at DePauw University with A. B. degree, 1907, in chemistry; Ph.D., American University, 1916. He was instructor in chemistry at DePauw University 1906-07; Purdue University, 1907-08; Pratt Institute, 1908-09; then analytical and consultant chemist, 1908-09, Brooklyn, New York.

From 1909 to 1918 Dr. Lathrop was biochemist in the laboratory of Soil Fertility Investigations, U. S. Department of Agriculture, Washington, D. C., carrying on research work on the distribution of organic

compounds in soils and peats; the decay of organic matter and action of organic fertilizers in soils. The results of these studies were published in a series of some 25 papers and bulletins.

In 1918 Dr. Lathrop became a member of the Chemical Department of E. I. DuPont de Nemours & Co., Wilmington, Delaware, organizing and managing the General Division of the Jackson Laboratory, dyestuff industry. This division developed much of the chemical control of the dye manufacturing processes, carried on chemical engineering studies on fundamental processes and had experimental responsibility for the manufacture of indigo as well as for several other operating processes. In 1919 he organized and became manager of the standards division of the chemical department in the Wilmington office.

In 1922 he resigned from the DuPont company and became vice president and director of the firm of Samuel P. Sadtler & Co., Inc., consulting chemical engineers, Philadelphia, Pa. In 1922 this firm became the consulting and directing chemists to The Celotex Company, and Dr. Lathrop spent more and

more of his time on Celotex research and control until in 1925 he moved to Chicago and became associated with the company as director of research and development department.

In 1912 the Franklin Institute of Philadelphia awarded to him the Edward Longstreth Medal of Merit for that year. In 1922 he became the associate American editor of the 6th Ed. Allen's Commercial Organic Analysis, 9 vols.

He was a member of the board of directors of the Celotex Co., the South Coast Co. and the Southern Sugar Co.

In 1932, Dr. Lathrop resigned from the Celotex Co., which was in receivership and returned to consulting practice in Chicago. On June 1, he became associated with the Crown Willamette Paper Co. as technical director at Camas, Washington.

He is a member of scientific societies, as follows: Fellow, American Association Advancement of Science, American Chemical Society, American Institute of Chemical Engineers (chairman, Publication Comm. 1925), American Society of Testing Materials (organized Comm. B-3 and chairman 1921-25), Technical Association Pulp and Paper Industry, Society of Chemical Industry (England), member of Beta Theta Pi Fraternity.

FALCONER RETURNS FROM SCOTLAND

J. Falconer, resident manager of the Powell River Co., Ltd., has recently returned to Powell River after a vacation of several months in Scotland.

ANACORTES MILL RELINES DIGESTER

The Anacortes mill of the Puget Sound Pulp & Timber Co. shut down June 20 until water shipments could be renewed, and is utilizing the time in relining a digester and doing other necessary repair work.

James P. V. Fagan, superintendent, is busy overhauling here and there, and is making a much improved mill of the plant.

PAUL HERB BACK

Paul Herb, vice-president of the Pacific Coast Paper Mills, Bellingham, Wash., has been back from Honolulu for some time, but is not yet quite up to the usual mark and is not at present putting in full time at the office.

Bill Herb has been back in Seattle for a while, but was expected to return to Bellingham for an indefinite stay.

ESTABLISHING SPECIFICATIONS FOR PAPER MACHINE CONTROL*

By V. L. TIPKA †

During the past decade we have seen many mills develop from lines which were in their day conservative to, what one would term today, "hard to make" specialty papers. In these new grades we have met and learned that our purchasing trade is one showing great discrimination in the quality and in the uniformity of the paper manufactured for their specific needs, and, we have learned too, that through proper control of the manufacturing process of these various grades, we are enabled to please and to satisfy the most fastidious accounts of our allied trades.

Needless to say, when once these grades are developed to the degree where paper of uniform quality is produced at a minimum loss to the mill, the manufacturer learns that this business is highly lucrative as long as the business is not too competitive. Even so, with proper and effective control of his manufacturing processes, the papermaker's position in a competitive market is even more strengthened and a position of advantage is gained over competing mills who are without proper means of control in their manufacturing organization.

Developing New Markets

Mills in a position to seek and profit by this specialty business are usually equipped with modern research laboratories, directed by men who have had considerable experience both as practical mill operators and as technical supervisors. It is usually their problem to analyze and determine what sheet properties a new grade of paper should possess to satisfy a newly developed account.

This brings to mind a recently developed grade here in the Northwest which is small in comparison to our more common or established grades yet will prove very profitable to the manufacturer of this particular specialty. It happened that a

man, very well versed and competent in creating specialty grades, was sent to learn what possibilities existed in a certain industry. At the customer's plant he learned that the use of paper was never before considered but they were willing to cooperate and let him demonstrate the possibility of lowering their costs as well as improving their product.

After he established the salient features of a sheet to meet their particular need, and not being satisfied himself with the results obtained, he in turn changed the color of the grade to greatly enhance the value of this customer's product to a degree where this account is solely with the establisher of this grade and will remain so as long as a uniform quality of paper is delivered.

How Is Uniform Quality Controlled?

Now when the research department has developed a new grade and determined the physical as well as the chemical properties it should have, what means of control in the manufacturing process is going to be employed to assure this customer that he will receive a uniform quality of paper at all times? Let us say, in this particular case the customer's requirements necessitate only a partial shipment of his total tonnage every three months.

It is apparently poor practice to make the total tonnage in one run. The investment, insurance, and the possible deterioration of the paper stock in storage prohibits this method of assurance. What alternative method is left for the manufacturer to employ? Complete operating data of the run of paper made that established this grade seems to be the only conclusion. If it is, and as far as the papermaker is concerned, this control should start in the beater room. Every factor contributing to the success or failure of the run should be disclosed. Only with this method, and with this procedure only, can relative and comparative values be obtained to be of any future use to the machine room organization.

In order to organize a control system within the beater and the machine room, it will first be necessary to determine what factors lend characteristics to the sheet and by what means this data should be collected.

First, we shall consider the latter. In this, it is my belief that each department is in a better position to gather its own data and to control its operation. By this is meant, all beater room records and reports pertaining to the conditioning of the furnish in the beater should be kept by this department. Likewise, all machine room data should start from the chest receiving the beaten stock and extend to the freight cars in which the paper is shipped. With this method in practice each department has its own operating data and can control the operations within the jurisdiction of its department. This tends to prevent good beatermen from becoming poor papermakers and conversely, good papermakers from becoming poor beatermen.

Correlating the Data

Now all information pertaining to the run having been gathered, it should in turn be turned over to a third party—the technical organization. In this way, all data concerning stock characteristics, as well as various conditions which existed at the time of the run, are compiled in their entirety under one grade head and copies sent to both the paper mill superintendent and the superintendent of the beater room. With this detailed information at hand at all times no confusion should occur nor conflicting opinions of the previous run "set up". With these three departments co-operating and working in unison, uniform and quality paper should be the result.

Secondly, we take up the factors which lend characteristics to the sheet. The pulp entering the beater should be tested for strength, freeness, permanganate number and the hydrogen-ion concentration. Now why should these determinations be made? Because we cannot

*Presented at the meeting of the Pacific Section, American Pulp & Paper Mill Superintendents Association, Portland, Ore., June 1-2, 1934.

†Member American Chemical Society

expect uniform results in both the beater and the machine room unless the quality of the raw pulp entering the beater is kept within certain limits.

Strength—This can be determined with any one of the following methods:

- (a) Pebble mill
- (b) Laboratory beater
- (c) Handsheet of raw stock

The handsheet is by far the quickest determination of the above methods, but it, in itself does not reveal the minimum beating required to obtain the maximum strength of the pulp. Therefore, strength determinations from methods (a) or (b) are of greater value in control work. Furthermore, when it is desirable to ascertain whether a pulp will withstand a maximum beating, there is no method that I am fully acquainted with that will give the positive results of the pebble mill or the laboratory beater.

Freeness—This is not of great value when determined on raw pulp alone. It is, however, worthwhile and a very important indication of the bonding action to be expected on the paper machine if it is taken in conjunction with the strength tests determined by methods (a) or (b). With the results obtained from the strength and freeness determinations, comparative values are made which "tie in" excellently with the permanganate number.

Permanganate Number—A quick determination disclosing the hardness or the softness of the pulp entering the beater. Mills already making bleachability tests can use the same equipment and method now in use. The results are similar.

Hydrogen-ion Concentration—A measurement of the degree of basicity. It is important to know whether the pulp is in a state of acidity or of alkalinity to secure good sizing results and also to derive as much from the dyestuffs as possible. Some basic dyes, such as Chrysoidine and Bismarck Brown develop to their greatest brightness in an acid medium.

The above determinations apply to the raw pulp entering the beater. If more than one grade of pulp is used in the furnish similar analysis should be made. Very often, "broke" is used in the furnish of various grades. It should be reported in percent as well as weight. Likewise, the kind of broke.

Beating Time—The time of beating means very little as long as the freeness, the consistency, and the pH

of the beaten pulp are considered and recorded. The beater room supervision should, in conjunction with the paper machine management, determine beforehand the extent the furnish for a particular grade is to be beaten in order to facilitate the paper machine operation and performance. It will be learned that the proper conditioning of stock before the jordaning operation is in no way of minor importance, but one worthy of paramount consideration when power, time, and sub-quality paper are to be minimized. It has often been learned, and too late, that proper conditioning of the pulp for various specialties should have been the primary thought. Therefore, before the beaten pulp is delivered to the machine system, the freeness, strength, consistency, temperature, and pH should be determined and recorded.

Paper Machines

As mentioned before, the jurisdiction of the machine room starts where the beaten stock enters the system. From the following places, freeness, strength, consistency, and temperature should be taken.

Before jordaning.

After jordaning—if jordans are in tandem, run tests on each.

Headbox or flowbox.

Underwire—consistency only.

Couch roll—freeness and strength only.

Other conditions and measurements to be made and compiled with the foregoing data are:

Jordan amperage, and to what extent the stock is chocked back.

Pressure on line from mix pump to screens.

Slice and head level measurements.

Shake—length and speed of stroke.

Where web begins breaking and where it runs dry on the wire.

Wire—type and mesh.

Vacuum—wire, couch and presses.

Weights—on all presses.

Drying—temperature and conditions of drying.

Calenders—also to include if paper is to be steam, water, or sweat finished.

Physical and chemical properties—to be correlative of paper manufactured under similar stocks conditions as above reported.

Speed of machine.

Finishing—to include all details as to cutter operation; whether paper is to be trimmed with or cross grain, and details of packing or wrapping.

Perhaps the question arises as to

why all of these various tests and details. Are they necessary for proper control? Let us see. The more common specifications for the various grades recorded as specialties are: basic weight; mullen strength; tensile strength; tear strength; folding strength; caliper; porosity; absorption; finish; formation.

Now supposing we are required to make a run of paper specifying all ten of the above requirements. Could they not be controlled by the following:

Basic Weight:

Can be controlled by the consistency and the amount of stock from the jordan. Also by the consistency in the headbox at a certain level with a standard slice measurement. Speed, of course, to be standard.

Mullen Strength:

By maintaining the proper freeness and consistency of the stock before the jordans, after the jordans, and in the headbox.

Tensile Strength:

The establishment of a desired consistency both through the jordan and in the headbox: a standard level in the headbox and a shake determined by experience. It is well to remember that the manipulation of weights on all of the presses often creates favorable conditions for obtaining good tensile strength.

Tear Strength:

With controlled beating and maintaining a determined consistency through the jordans.

Folding Strength:

Controlled beating at a proper consistency. Also proper jordaning with a favorable shake on the wire.

Caliper:

Establishing certain weight conditions on all presses and maintaining predetermined draws throughout the machine. Also controllable at slice and at calenders.

Porosity:

Controlled beating to facilitate jordan operation. Controlled jordaning. Consistency under wire. Headbox freeness and maintaining a favorable vacuum on flatboxes and on couch roll. Determine point of break on wire.

Absorption:

See Porosity. Same conditions apply.

Finish:

Dandy roll, presses, and calenders. Use water, sweat or steam on dry end to enhance finish.

Formation:

Can be improved by manipulating the consistency of the stock in the headbox; by carrying the stock down the wire under predetermined conditions; by standardizing the shake; and by the consistency under the wire.

Conclusion

I feel that most of you gentlemen present here today doubt in some degree the value of machine operation data. A statement has often been made that conditions are never the same on two runs of paper and the operation of a machine today will be altogether different tomorrow. That statement is partially true, but conditions can be made similar and if sufficient data are collected, time, as well as sub-quality paper can be saved.

Can you imagine a beater room superintendent not recording the various constituents of a furnish? Why does he do it? Are not time and trouble partly eliminated by this method? The ability of the papermaker is not questioned in this paper, but the fact still exists that after new grades are established, their ability to produce paper of uniform quality can only be assured through proper standardization of pulp and paper machine conditions. With the above in mind and that this subject may be more luminously understood, this paper is presented.

RAINIER OYSTER SUIT BEING HEARD

The suit of the Blass Oyster Co., seeking \$37,500 and of Kate Helser asking \$13,400 damages from the Rainier Pulp & Paper Co. for asserted injury to the oyster beds in the vicinity of the pulp mill, came to trial in Federal court in Tacoma on July 5.

The case has been pending almost a year. It is expected that the trial will not be complete until late in July.

IMPROVED PAPER MACHINERY CORP ADDS TO SALES STAFF

The Improved Paper Machinery Corp. of Nashua, N. H., manufacturers of pulp and paper making equipment, announces the appointment of John H. Noble of Pelham, N. Y., as sales manager.

Kenneth B. Hall of Portland, Ore., has been appointed Pacific Coast representative for IMPCO equipment.

DR. PICKENS OFF ON EASTERN TRIP

Dr. Russell Pickens left July 5 on a business trip East for the Rainier Pulp & Paper Co., planning to visit Detroit and the sales offices of the company in New York as well as keeping in touch with new trade conditions and progress in the rayon and cellophane industries served by the local plant.

JOHN VARLEY TRAVELS

John Varley, who is superintendent of the Paraffine Companies, Inc., at Emeryville, Calif., recently was on a combination business and pleasure trip through the East.

ALBANY FELT MAN VISITS WEST

Harry Stillwell recently called at a number of the Coast mills, taking with him Neils Larsen, Albany Felt Co. service engineer, so that Mr. Larsen might see some of the operations in this section.

Mr. Larsen was accompanied on the trip by his wife and son. His father is Petter Larsen, who has one of the largest equipment concerns in Europe, located at Oslo, Norway.

JUNE NEWSPRINT STATISTICS

Production in Canada during June, 1934, amounted to 229,637 tons and shipments to 225,449 tons according to the News Print Service Bureau. Production in the United States was 83,504 tons and shipments 79,721 tons, making a total United States and Canadian news print production of 313,141 tons and shipments of 305,170 tons. During June, 28,571 tons of news print were made in Newfoundland and 1,813 tons in Mexico, so that the total North American production for the month amounted to 343,525 tons.

The Canadian mills produced 370,254 tons more in the first six months of 1934 than in the first six months of 1933, which was an increase of 41 per cent. The output in the United States was 37,790 tons or 8 per cent more than for the first six months of 1933, in Newfoundland 31,794 tons or 26 per cent more, and in Mexico 1,159 tons more, making a net increase of 440,997 tons, or 29.8 per cent.

Stocks of news print paper at Canadian mills are figured at 46,782 tons at the end of June and at United States mills 24,080 tons, making a combined total of 70,862 tons compared with 62,891 tons on May 31, 1934.

NORMAN KELLY IS SUMMER BACHELOR

W. Norman Kelly, superintendent of the Weyerhaeuser pulp division, has been a bachelor again for a while this summer while Mrs. Kelly has been vacationing on Hood Canal.

WESTMINSTER EARNINGS REGISTER GAIN

Westminster Paper Co., operating specialty mills at New Westminster, B. C., is making still further improvement in earnings this year. Consistent gains over the same period a year ago, it is understood, were shown for the first six months operation of the present fiscal year.

In addition to meeting all charges on a \$300,000 issue of 6½ percent first mortgage bonds, the company paid 40 cents per share in dividends on common in 1933. A net profit of \$21,579, compared with \$19,970 for the previous year, was reported after bond interest, depreciation which was practically \$15,000 heavier than in 1932, and income taxes had been paid.

GRANT FARMER EAST

Grant Farmer, superintendent of the Los Angeles plant of Fibreboard Products, Inc., is in the East on a five week's trip.

DON CHARLESON — FISHERMAN

Don Charleson, superintendent of the Grays Harbor Pulp & Paper Co. plant, spent his vacation this summer on a fishing trip in British Columbia.

KINSEY IS BUSINESS CLUB PRESIDENT

Maurice Kinsey, chemist at the Rainier Pulp & Paper Co. plant, was recently elected president of the Young Men's Business Clubs of Shelton.

At one of the recent meetings Mr. Kinsey provided the feature attraction with an explanation of the making of cellophane and rayon.

NEWSPRINT DUMPING COMPLAINT FILED

Complaint has been filed by the Import Committee of the American Paper Industry against the dumping of Novel Newsprint Paper imported from Finland. The paper, even including duty, is being delivered at between \$41 and \$42 per ton, as compared with a domestic price of \$45 per ton.

STAGE SET FOR INTERNATIONAL TAPPI MEETING

Plans for the International Convention of TAPPI to be held September 10-13 at Portland are rapidly shaping up, and indications are increasingly strong that a record-breaking meeting will be staged.

Every pulp and paper mill man on the Pacific Coast who can possibly get away is expected to be on hand for the big gathering, and with several special trains coming from the East, in addition to those who drive out, it is certain that the convention will not suffer from lack of attendance. Indeed, the real problem will probably be how to take care of the crowd, even with the large-scale facilities of the big Multnomah Hotel, convention headquarters.

Lawrence Killam, chairman of the Pacific Section, will be there to preside over the meetings, and his good offices are sure to guarantee interesting sessions. It might be said that western officers present a well-balanced team for carrying on the convention. Mr. Killam, as president of British Columbia Pulp & Paper Co. representing the executive, Myron Black, vice-chairman, representing the technical and Al Quinn, as secretary-treasurer, representing the allied groups.

H. Robert Heuer, general convention chairman, has under way many plans that have to do not only with the convention proper, but also with arrangements for the entertainment of visitors who are making the trip as a vacation and want to spend a little time seeing the country.

Prominent Speaker Promised

The program of technical papers is in the hands of Raymond Hatch, director of research for the Weyerhaeuser Timber Co., a man well qualified to handle this difficult job in excellent style. The titles of papers have not yet been announced, but their interest and value is assured. Mr. Hatch has also promised for the meeting a speaker of national reputation and prominence who will be worth while to hear.

G. S. Brazeau in Chicago, and Ray Smythe in Portland, are handling the transportation problem, and judging from the plans announced thus far, TAPPI members



LAWRENCE KILLAM
Chairman, Pacific Section

coming from the East will have one of the finest trips ever made by a group to the West. As announced in our last issue, the special trains will leave Chicago at 10:30 p. m. on September 5 and will stop for a ceremony by the Indians at Mandan, N. D. A day will be spent at Yellowstone Park after the train reaches Gardiner, Mont., at 9:00 a. m. September 7. Then on to Spokane, where it is anticipated that a group of members from the western mills will join the train for the trip on in to Portland, where special reception ceremonies will be carried out in typical western style.

In addition to the inspiring trips being planned for the conventionites into the tall timber near some of the pulp mills, other trips to various parts of Washington and Oregon are being arranged for those who have the time and inclination to go. There will be no excuse for TAPPI members from other parts who do not get their eyes filled with the many things there are to see in the Pacific Northwest.

The call is going out all over the country now to men of the pulp and paper industry to get their traveling togs together for the greatest convention of their experience. Those who come will be amply repaid for the time and expense in-

volved; those who do not attend will miss an opportunity that probably will not be duplicated for a long time to come.

PLANNING WORK STARTS IN OREGON

At a conference in Portland on June 28 a comprehensive program of state planning was launched under the auspices of the Oregon Planning Council. Dr. P. A. Parsons, of the University of Oregon, Eugene, Ore., was elected chairman. Nineteen subdivisions were set up; that on forestry being headed by C. J. Buck, regional forester, Portland. The work of molding the work of the various committees will be in the hands of an executive committee consisting of the chairman, three members to be selected and Van Buren Stanbery, state planning consultant. Another committee of especial interest to the timber owner is the land classification committee, of which Sinclair Wilson of Portland is chairman.

The Oregon Planning Council will work in harmony with the Oregon Planning Board and the regional planning office, of which Marshall N. Dana is the head, and Major R. F. Bessey, regional planning consultant. The last named organization is the one through which the Oregon body will correlate its work with similar work being carried forward in Idaho, Montana and Washington and with the National Planning Board, Washington, D. C.

The work this summer will be largely conducted through the various committees set up. The work will consist of a common sense appraisal of the resources of Oregon and a practical integration of proposed development work, private, state and federal. It is hoped that the development plans can be so harmonized, for example, as to forward the development of all industries without the expansion in any one industry working harm on one or more other industries. In the early fall, at a time and place to be determined, the Oregon Planning Council will hold a meeting to consider committee reports.



POWELL RIVER IMPROVEMENT PROGRAM UNDER WAY

Powell River Co., Ltd., premier newsprint producer on the West Coast, is making extensive plant changes with a view to improving the printing service of its product, without necessarily increasing capacity. The big mill at Powell River is now operating at top capacity of about 630 tons daily, and while a heavy outlay is being made for new equipment and adjustment to the machines already installed, there will be no additional production and the company has no plans for expansion in that respect for some years to come. A. E. McMaster, vice-president and general manager, said that until the whole newsprint situation has cleared up considerably the company will make no move to raise production.

"Our policy has always been to improve the product as much as possible," said Mr. McMaster, "and for that reason we are undertaking an extensive and costly program involving installation of the chemi-pulp system in the sulphite mill, new filters, changing the wet end of the machines, increasing grinder capacity and the erection of new buildings. We hope to have the program completed by the fall. Practically all the work is being done by our own engineering and building staff."

The new chemi-pulp system will utilize one digester as an accumula-

tor for the present, the remaining five to be used for pulp cooking.

Mr. McMaster pointed out that improvement in the newsprint market would make it necessary for all mills to keep on their toes, figuratively speaking, so as to keep the product at the highest possible point of efficiency. "It is a critical market as well as a keenly competitive one," said Mr. McMaster. "More than ever before, publishers and paper salesmen will be stressing quality and only the mills that can give the quality will be sure of the business. We have built up a fine market during the last few years and do not intend to lose it."

Price Rise Expected

Incidentally, Mr. McMaster predicts a gradual advancement in prices towards the end of the year, although he does not hazard a guess as to just when it will come or its extent. He attended several sessions of the newsprint producers' conferences with NRA officials in Washington earlier this year, and he recalls that figures were presented then showing that the average actual cost of production of a ton of newsprint was \$43.50. In the face of that, the present delivered coast price of \$40 is ridiculous. He said that he had talked to many coast publishers during the last few weeks

and most of them were agreed that the situation warranted a reasonable increase in the price of newsprint. The advertising business is improving and Mr. McMaster said he hoped that the newspaper and the newsprint industry would be able to proceed with a joint recovery simultaneously, without either one slipping behind or getting ahead of the procession—a situation often occurring in recent years.

"The newsprint industry all over the country is gradually becoming more stabilized," said Mr. McMaster. "Many of the eastern Canadian mills are still operating at only about 50 per cent capacity or even less, and at present prices cannot hope to pay expenses. But during the last year or so many of the obsolete and high-cost mills were shut down and the financial structure of topheavily financed organizations was revised, so that much of the deadwood has been eliminated. When general conditions improve and prices return to a more satisfactory level, the industry as a whole will be in much better shape to make real progress than ever before."

Operators of some of the eastern Canadian mills regard the Powell River company enviously now, for it has been operating at capacity for months and enjoying a highly diversified market. However, the situation is merely the result of aggressive salesmanship by the Powell River company at a time when other mills were evidently afraid to enter low price territory and would not

attempt stabilization. The Powell River company, for instance, pioneered the South American market when other companies steered clear of that field, and today the

company is profiting by large orders from that quarter. The prices have been generally low, but the company has considered it wise to accept such orders rather than cur-

tail operations of the mill and throw a large proportion of its employees out of work. Similarly successful was the company's sales campaign in China and Japan.

CROWN ZELLERBACH REPORT SHOWS GOOD GAINS

The tenth annual report of Crown Zellerbach Corp., released July 10, says:

"The operations for the year, after giving effect to all charges for depreciation, depletion, bond and debenture interest and income taxes, and after deducting minority stockholders' share of the earnings of subsidiary companies, resulted in a consolidated net profit of \$1,579,640.29, equivalent to \$6.30 per share on the Crown Zellerbach Corporation preference stocks in the hands of the public. This compares with a consolidated net loss of \$71,428.43 for the preceding fiscal year.

Earned Surplus and Dividends

"In addition to the consolidated net profit for the year of \$1,579,640.29, there has been credited to earned surplus a profit of \$341,765.86 on companies' own bonds and debentures purchased for redemption and with the restoration of Canadian exchange to parity with United States exchange, there has been returned to surplus the sum of \$258,664.35, previously charged thereto, representing the appreciation of book value of the net current assets of Pacific Mills Limited, a Canadian company.

"After giving effect to the foregoing and absorbing direct the dividends accrued on Crown Willamette Paper Company preferred stocks for the year in excess of consolidated net profit of that company, amounting to \$516,319.63, together with the other items shown on the accompanying earned surplus account, the consolidated earned surplus of your corporation for the year showed an increase of \$1,522,205.22 before dividends.

"Quarterly dividends of 37½ cents per share, totaling \$375,752.61, were paid during the year on Crown Zellerbach Corporation preference stocks. At April 30, 1934, the accumulated unpaid dividends on the

ASSETS	
Current Assets:	
Cash	\$ 2,876,779.50
United States and Canadian Government securities (market value \$1,950,000.00)	1,925,121.54
Other marketable securities (value based upon market quotations \$329,000.00)	308,714.60
Notes and accounts receivable, less prov. for losses	5,200,654.17
Notes and accounts receivable, employees	58,905.81
Inventories, valued at cost or market, whichever lower	8,930,209.65
Total current assets	\$19,300,385.27
Investments and Receivables, Other Than Current:	
Investment in Fibreboard Products, Inc., represented by 39.7 per cent of the \$7 preferred stock, 44.1 per cent of Class A common, and 50 per cent of the Class B common, at proportionate book value \$ 5,482,221.39	
Other investments not readily marketable, and re- ceivables	631,862.78
	6,114,084.17
Capital Assets:	
Land, timberlands, leases, etc., less depletion and amortization	\$33,973,003.23
Buildings, machinery and equipment \$69,144,974.74	
Less, Reserve for depreciation	28,052,694.47
	41,092,280.27
	75,065,283.50
Deferred Charges to Operations:	
Unamortized financing expenses	\$ 365,264.87
Prepaid insurance, taxes and other advanced expenses, etc.	393,726.63
	758,991.50
	\$101,238,744.44
LIABILITIES	
Current Liabilities:	
Accounts payable, including accrued expenses	\$ 3,927,876.25
Accounts payable, officers and employees	163,345.12
Accrued United States and Canadian income taxes, including prior years	621,784.26
Notes, mortgages and contracts payable prior to April 30, 1935	479,482.29
	\$ 5,192,487.92
Notes, Mortgages, Contracts, etc., payable subsequent to April 30, 1935	1,987,049.98
Bonds Payable, Less Bonds Redeemed or in Treasury:	
Crown Willamette Paper Co., First Mortgage Sink- ing Fund 6% Gold bonds, due 1951	\$15,245,000.00
Pacific Mills Limited:	
First Mortgage 6% Serial Gold bonds, due 1935 to 1942	1,307,000.00
Guaranteed Subordinated Mortgage 6% Gold bonds, due 1945	1,467,200.00
Washington Pulp & Paper Corporation, First Mort- gage 6½% bonds, due 1941	146,000.00
Crown Zellerbach Corporation, Ten-year 6% Gold Debentures, due 1940	6,700,000.00
	24,865,200.00
Contingent Liabilities:	
Accommodation guarantees	\$ 90,676.08
Trade acceptances and drafts discounted	403,566.74
	\$494,242.82
	32,044,737.90

PACIFIC PULP & PAPER INDUSTRY

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CAPITAL

Capital Stocks of Subsidiaries in Hands of Public

(including proportionate interest in surplus):

Crown Willamette Paper Co., entire preferred issues (including cumulative dividends accrued to April 30, 1934, and unpaid in the amount of \$2,675,166.67):	
200,000 shares, no par value, First Preferred	
\$7 Cumulative	\$21,916,666.67
41,000 shares, no par value, Second Preferred	4,858,500.00
\$6 Cumulative	9,436.60
Pacific Mills Limited:	
3,635.09 shares \$100 par value 6% Cumulative Preference (outstanding 19,989 shares)	363,509.00
5,192.125 shares \$100 par value Ordinary (outstanding 75,000 shares)	958,277.15
Minority interests in other subsidiaries	28,106,389.42

Crown Zellerbach Corp. Capital Stock and Surplus:

Preference stocks, Convertible, Cumulative \$6 Dividend, no par value:

Series A, 198,334 shares outstanding, less 7,603 shares in treasury	\$15,347,142.37
Series B, 60,000 shares outstanding, less 130 shares in treasury	5,388,300.00

Common stock, no par value, 1,991,680 shares outstanding, less 123,558 shares in treasury, at stated value of \$5 per share

9,340,610.00

Surplus, details annexed:

Capital surplus	\$7,551,740.60
Earned surplus	3,459,824.15

11,011,564.75

41,087,617.12

Dividends on Crown Zellerbach Corporation Preference stocks accrued to April 30, 1934, and unpaid, amount to \$3,444,870.00.

\$101,238,744.44

CONSOLIDATED PROFIT AND LOSS ACCOUNT

For the Year Ended April 30, 1934

Profit before depreciation, depletion, bond and debenture interest and income taxes	\$8,571,092.91
Deduct:	
Depreciation	\$3,395,916.51
Depletion	491,974.97
Bond and debenture interest	1,540,094.74
United States and Canadian income taxes	409,680.49
	5,837,666.71

Net profit before deduction of minority stockholders' interests	2,733,426.20
Deduct, Interest of minority stockholders:	
Interests of preferred stockholders of Crown Willamette Paper Co. in consolidated net profit, being the consolidated net profit of the Crown Willamette Paper Co. for the year	\$1,129,680.37
Interests of other minority stockholders	24,105.54
	1,153,785.91

Net profit transferred to earned surplus

\$1,579,640.29

preference stocks amounted to \$3,444,870.00, or \$13.75 per share, of which \$3,194,334.00, or \$12.75 per share, was in arrears.

Properties

"The companies' properties have been maintained in excellent operating condition. More than \$2,400,000.00 was expended during the year in improvements of and additions to plants and logging facilities. Our established depreciation rates have been continued, resulting in a charge of \$3,395,916.51 for the year. This compares with a corresponding charge of \$3,282,088.22 for the preceding year.

Financial Position

"The accompanying consolidated

balance sheet reflects the sound consolidated financial position of your corporation and its subsidiaries. Consolidated current assets at April 30, 1934, aggregated \$19,300,385.27, approximately 3.7 times current liabilities of \$5,192,487.92. Working capital amounted to \$14,107,897.35, compared with \$12,427,054.97 at April 30, 1933, an increase of \$1,680,842.38.

"Cash, United States and Canadian government securities and other marketable securities aggregated \$5,110,615.64, compared with \$4,370,570.43 at April 30, 1933.

"Notes and accounts receivable, after deducting adequate provision for possible losses, totaled \$5,200,654.17, an increase of \$350,070.83

over a year ago, due to increased sales.

"As in the past, inventories have been valued on the basis of cost or market, whichever was lower. After the elimination of intercompany profit, the consolidated inventories at April 30, 1934, totaled \$8,930,209.65. This represents an increase of \$1,982,394.46 compared with the corresponding total last year due to higher unit values and larger quantities.

"There were no current bank loans at April 30, 1934.

"Bonds and other long-term indebtedness were reduced by \$2,307,631.01 during the year. Bonds and debentures aggregating \$3,175,000.00 are held in advance of maturities or sinking fund requirements."

Supplemental C-Z Report Other Than C. W. Co.

The report of the Crown Zellerbach Corporation is this year supplemented by a balance sheet and profit and loss and surplus accounts consolidated with respect to Crown Zellerbach Corporation and its subsidiaries, other than Crown Willamette Paper Co. and its subsidiaries. On April 30, 1934, accumulated unpaid dividends in arrears on outstanding preferred stocks of Crown Willamette Paper Co., in the hands of the public, amounted to \$2,538,000. Until those accumulated dividends are paid, no part of Crown Willamette funds or earnings will be available to Crown Zellerbach Corporation.

The statement of Crown Zellerbach and subsidiaries, other than Crown Willamette shows current assets of \$8,691,888; investments and receivables other than current \$21,683,710; capital assets \$21,774,326; deferred charges to operation \$593,278; total assets \$52,743,192.

Liabilities show current liabilities of \$2,563,803; notes, mortgages, etc. payable subsequent to April 30, 1935 \$1,987,050; bonds payable \$6,846,000; capital stocks of subsidiaries in hands of the public \$9,437; Crown Zellerbach capital stocks and surplus \$41,336,902; total liabilities \$52,743,192.

The consolidated profit and loss account shows profit before depreciation, taxes, etc. \$3,341,458. After deduction of depreciation, bond interest, taxes, etc., net profit is \$1,633,528; and net profit transferred to earned surplus after deducting interests of minority stockholders in earnings of subsidiaries is \$1,633,240.

OPENING OF SITKA SPRUCE PLANT DELAYED BY SUIT

Plans to rehabilitate the Sitka Spruce Pulp & Paper Co. mill at Empire, Ore., and again place it in operation are for the present at a complete standstill, due to litigation in which the properties have become involved.

The International Wood & Sulphite Co., which planned to take over the plant following its sale to the trustees of the judgment creditors on April 2, is making no move pending decision on the appeal now before the Oregon supreme court. If the circuit court sale is upheld, the International company will likely take immediate possession and proceed with the reconstruction work necessary for renewed mill operations.

The present legal action was brought by the Dollar and Fleischhacker interests, the Anglo-Canadian National Bank and the Fidelity Warehouse Corp., former owners, in an effort to set aside the judicial sale. Their first objection was filed March 25, following the court sale of March 5, on the ground of lack of jurisdiction. When the sale of the receiver was confirmed by the court on April 2, without a redemption clause, the former owners filed an appeal with the supreme court to set aside the sale.

The appellants' brief of 246 pages was served June 26 and the answer of the trustees and other respondents was to be filed the middle of July. It is expected that the supreme court will dispose of the case before its adjournment in August.

Inasmuch as the Sitka Spruce Pulp & Paper Co. has had a rather involved and complicated existence, a summary of the publicly known facts may serve to give a clearer understanding of the present situation.

The company was incorporated under the laws of the state of Nevada on September 23, 1928. It is said that the original cash investment of the company itself totaled \$131,500, and that the remainder of the capital investment was obtained by loans from San Francisco and other banks.

The company went into receivership on August 3, 1932, at which

time it had an indebtedness of about \$850,000, representing loans to the company and obligations incurred during the construction and operation of the plant. Certain of the claim holders went to court and obtained judgment liens totalling approximately \$60,000; labor claims amounted to \$9,000; Coos County taxes were \$29,000, and there were other local unsecured creditors.

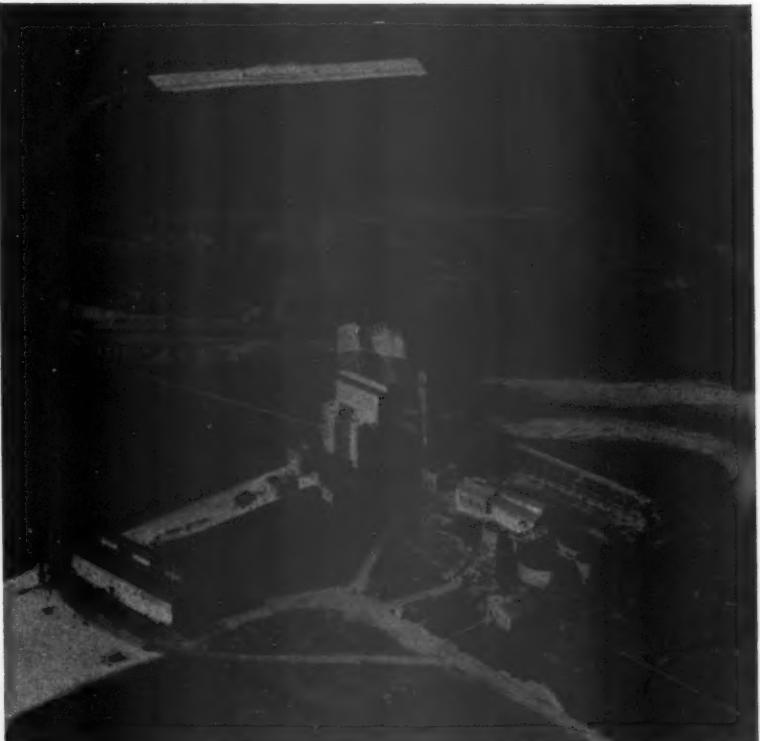
For a year no action was taken, except in settling the labor claims. Then on August 8, 1933, the court made an order of sale, the minimum bid to be \$150,000; however, no bids were received.

On January 6, 1934, the court made an order for the receiver to sell the property for the best price obtainable for cash or on conditional sale, or for credit on such terms as should be approved by the court. At this time the holders of

the judgment liens elected three trustees, Chris Boesen, John N. Mullen and Thomas H. Ness, and assigned to them power to buy and sell the properties, with certain limitations on their authority.

The sale was held as ordered, and the Sitka Spruce property was sold to these trustees for \$74,242.70, which included \$61,376.40 in claims and \$12,866.30 in fees and incidental expenses. Despite objections of the former owners, the receiver's sale of March 5, 1934, was confirmed by the circuit court on April 2, without privilege of the redemption by the former owners. The trustees had agreed to sell the plant later to the International Wood & Sulphite Co. Appeal has now been filed with the supreme court to void the sale, and that is where the matter now stands.

Should the sale be set aside, the



An Air View of the Sitka Spruce Properties at Empire, Ore.

status of the property and of creditors would be the same as when the receiver was originally appointed and the former indebtedness of approximately \$850,000 would be due and payable immediately, probably resulting in bankruptcy or another receivership.

If the sale is upheld, International Wood & Sulphite Co. will probably take over the mill and put it in operation as soon as reconditioned. In this case the former owners, among which are the Anglo-California National Bank, the Fleischhacker and Dollar interests, and the Fidelity Warehouse Corp., will lose all interest in or claim to the Sitka Spruce property, a matter of some

consequence to certain interests reported to have endorsed the loans by the bank.

However, that still further legal action may be in the offing in case the sale is confirmed, is indicated by the fact that the R. Stanley Dollar interests of San Francisco have purchased certain of the judgment liens against the property, according to court records at Coquille, Ore.

It is reported that the claims of C. D. Ray, Nonda Anderson and the Coos Bay Iron Works, totalling about \$26,000 have been purchased, but later advices indicate that only one may have been involved.

What further legal action may be taken has not been disclosed.

most rigid exchange control, no restrictions have been imposed which would interfere with business requirements. When all these favorable conditions are considered with the fact that the Japanese people subsist virtually on a menu of rice and fish, it is apparent that the country has an almost unbeatable combination for economic success. A country so constituted is bound to be an important neighbor and a worth-while buyer of our products."

Japan has now achieved second place among the rayon producers of the world, being surpassed only by the United States. While a certain proportion of the raw material used in manufacture of Japanese rayon comes from the United States, the bulk is being supplied by Scandinavian mills. Practically all the pulp sent to Japan by B. C. Pulp & Paper Company and other Northwest mills is used exclusively for paper manufacture, some of which is re-exported to China.

Jorgenson Predicts Big Future For Pulp Trade With Orient

Oscar Jorgenson, secretary of British Columbia Pulp & Paper Co., has returned to Vancouver from a business tour of Japan, deeply impressed with the industrial and commercial advances being made in that country and convinced more than ever that the Far East is one of the most promising markets for the pulp and paper industry in the Pacific Northwest.

Japan, which has been one of Mr. Jorgenson's company's best customers for some years, will continue to be in the market for pulp in increasing quantities for many years, the Vancouver executive believes, even though the guilds have recently ordered a general curtailment of production. He says that since Japan took over Manchuria and created the state of Manchukuo some of the largest pulp and paper companies in the kingdom have organized pulp subsidiaries there with the hope of augmenting their supplies of raw material. Promotion of half a dozen such companies has been a recent feature of the Japanese stock market.

"Japan has a long way to go before she can develop sufficient pulpwood resources within her boundaries to meet the needs of her industries," said Mr. Jorgenson. "There is no doubt that she will make every effort to attain a self-sustaining condition in regard to pulpwood as in other lines. That is a part of Japan's traditional economic policy."

Mr. Jorgenson's visits to Japan have made him an admiring friend of that country, and he believes that,

in spite of all the complaints of Japan's ruthless competition in world markets and her relatively low standards of living, the country has done as well as if not better than any other country in meeting the economic problems of the day.

Japan's N.R.A.

"Japan had the equivalent of an NRA long before codes were adopted in the United States," said Mr. Jorgenson. "Japan has brought about a government partnership in industry that is not duplicated in helpfulness anywhere else in the world. The financial policies of Japan have been the work of genius. One of the factors which I believe to be largely responsible for the forward strides now being made by Japanese industry is the avoidance of additional taxation during this period of transition to permit of continued progress. The per capita debt of Japan, whether figured on the comparative wealth of the country or on the comparative per capita earning power, is lower than in any of the leading countries of Europe or America. Industry has flourished in Japan at a time when it has languished almost everywhere else. Ninety percent of Japanese industries paid dividends last year. They have achieved the highest efficiency without increasing wages or increasing unemployment, and there is virtually no industrial discontent."

"Although the powers conferred on Mr. Takahashi, the finance minister, who has now unfortunately resigned, enabled him to exercise the

SANDWELL IN VANCOUVER

P. Sandwell, who resigned from the Powell River Co., Ltd., recently, is now living in Vancouver, B. C., at 1049 Nanton Ave.

ARTESIAN WELLS DRILLED AT SHELTON

A test well driven for the Rainier Pulp & Paper Co. near the central power plant was completed about 30 days ago and has developed a flow of about a million gallons per day from a six-inch bore down 630 feet. The water at this level has been found pure, with practically no mineral and only a trace of sulphur.

A second well has been drilled near the waterfront, with a 26-inch bore, and is being provided with a permanent steel tube casing. When it reached 135 feet a good flow of water was obtained, coming up ten feet above the ground level, and it is expected that the flow will be increased as the well is sunk to much greater depths, perhaps several thousand feet. The rocker cable and drill method is used, with the driving tool weighing more than a ton, and so far fast progress has been made as no rock stratas have been reached; the material being clay and sand with little gravel at the lower depths. At present the well is flowing about 500 gallons a minute or 750,000 gallons in 24 hours, but it is hoped to increase the flow by tapping lower water veins.

The plant requires 15,000,000 gallons of water per day.

PACIFIC MILLS HAS PROFIT

The report of the Pacific Mills Ltd., for the fiscal year ended April 30, 1934, shows the company to have made a net profit of \$182,808 for the period, a considerable improvement over the previous fiscal year.

In his report to shareholders, President A. B. Martin said:

"The operations for the year resulted in a net profit of \$182,807.75, compared with \$36,242.23 for the previous fiscal year. In determining the net profit for the year there were deducted \$628,703.73 for depreciation and depletion, \$178,868.40 for bond interest and \$78,505.72 for Dominion and Provincial income taxes.

"Regular dividends were paid on the preference shares during the year, amounting to \$119,934.00 and after deducting this amount from the net profit of \$182,807.75 there was available for the ordinary shares \$62,873.75, equivalent to \$8.84 per share. In the previous fiscal year, after deducting corresponding dividends on the preference shares, there resulted a loss of \$83,691.77, equivalent to \$1.12 per share on the ordinary shares. These results are exclusive of profits on your company's own bonds purchased for redemption, which profits were credited direct to earned surplus.

Cash Position Good

"The balance sheet at the close of the year reflects the sound financial position of the company. Current assets amounted to \$3,452,517.25 and current liabilities, \$469,492.20, resulting in a net working capital of \$2,983,025.05 as compared with \$3,079,869.87 at April 30, 1933. Cash and Canadian and United States government securities amounted to \$1,795,562.23. This compares with \$1,473,180.67 at the close of the previous fiscal year and \$1,024,532.72 at April 30, 1932.

"The net reduction in capital assets over a year ago of \$171,773.19 is the amount of depreciation and depletion reserves for the year of \$628,703.73, less capital expenditures during the year of \$456,930.54.

"During the year \$200,000.00 first mortgage serial bonds were redeemed and purchases were made of \$131,800.00 of first mortgage and subordinated mortgage bonds, thereby reducing the total outstanding bonded indebtedness by \$331,800.00 to \$2,774,200.00.

"The reduction in revenue arising from the reduction in the price of newsprint paper June 1, 1933, of \$5 per ton, bringing the selling price down to \$40.00 per ton delivered Pacific Coast ports—the lowest in twenty years—was offset by increased volume of sales and prices of our other paper products and by increased efficiencies and economies of operation. Production costs, however, have now increased as a result of substantial advances in the prices of materials and supplies entering into the manufacture of our products and the restoration on May 1, 1934, of the scale of wages and salaries in effect prior to the general reduction of approximately ten percent in January, 1933. With these increased costs it is to be expected that operations will not be profitable so long as the price of newsprint paper remains at the present low level. We are hopeful that the protracted efforts of the newsprint industry to stabilize prices at higher levels will have some degree of success in the near future."

The condensed balance sheet for Pacific Mills, Ltd., as of April 30, 1934, is as follows:

ASSETS	
Cash	\$ 293,485.67
Canadian and U. S. Securities, not exceeding market value	1,502,076.56
Accounts Receivable	562,098.18
Inventories valued at cost or market, whichever lower	1,094,856.84
Total Current Assets	\$ 3,452,517.25
Investments and Accounts receivable other than Current	36,667.78
Properties, less depreciation	15,473,419.11
Deferred charges	122,256.19
	\$19,084,860.33
LIABILITIES	
Accounts Payable	\$ 311,473.42
Bond Interest Accrued	41,613.00
Reserve for Dominion and Provincial Taxes	116,405.78
Total Current Liabilities	\$ 469,492.20
First Mortgage 6% Serial Gold Bonds, balance due 1935 to 1942	1,307,000.00
Guaranteed Subordinated Mortgage 6% Gold Bonds, due 1945	1,467,200.00
Capital and Surplus	15,841,168.13
	\$19,084,860.33

SUMMARY OF PROFIT AND LOSS AND SURPLUS ACCOUNT

Profit, before charging Depreciation, Depletion, etc.	\$ 1,068,885.60
Less:	
Depreciation	\$619,241.29
Depletion	9,462.44
Bond interest	178,868.40
Provision for Taxes	78,505.72
	886,077.85
Net Profit for Year	182,807.75
Add:	
Earned Surplus at April 30, 1933	6,261,274.39
Profit on bonds purchased	18,119.99
	6,279,394.38
	6,462,202.13
Deduct Dividends on Preference Shares	119,934.00
Surplus carried to Balance Sheet	\$ 6,342,268.13

CROWN-WILLAMETTE EARNINGS

Showing increased earnings over last year, consolidated net profits of Crown Willamette Paper Company, after all charges for depreciation, depletion, bond interest and income taxes and after deducting minority stockholders' interests in profits of Pacific Mills, Ltd., a Canadian subsidiary, aggregated \$1,129,680, equivalent to \$5.65 a share on the first preferred stock, compared with a loss of \$37,613 for the preceding fiscal year.

Dividends aggregating \$800,000, representing quarterly payments of \$1 a share on account of the first preferred \$7 stock, were paid during the year. No dividends were paid on the second preferred. Dividends in arrears as of April 30, 1934, amounted to \$9 a share on the first preferred and \$18 a share on the second preferred.

Increased earnings occurred in face of a reduction in revenue arising from a decrease as of June 1, 1933, in the price of newsprint paper of \$5 a ton to the existing \$40 a ton level. This decline was more than offset by the increased volume of sales and increased prices of other paper products, net sales showing a gain of 12 per cent over the previous year.

However, Louis Bloch, president, in his report to the stockholders stated: "The trend of production cost is now substantially upward and it is hardly to be expected that present earnings can be maintained unless the price of newsprint paper is advanced from its present low level. We are hopeful that the protracted

efforts of the newsprint industry to stabilize prices at higher levels will have some degree of success in the near future."

Reflecting the sound consolidated financial position of the company and its subsidiaries, consolidated

current assets at April 30, 1934, aggregated \$10,813,892, or more than four times current liabilities of \$2,683,870. Working capital amounted to \$8,130,022, compared with \$7,468,750, at April 30, 1933, an increase of \$661,272. Cash, United

States and Canadian government securities aggregated \$3,535,422, compared with \$3,053,991 April 30, 1933. There were no current bank loans April 30, 1934. Bonds outstanding were reduced by \$1,108,800 during the year.

NEW GAS LIFT TRUCK AIDS HANDLING

By their steady, efficient performance, lift trucks have won their way into the plan of pulp and paper manufacture and handling, and have become standard hauling units in many of the western mills. Their use is a decided innovation and definite change from the older methods of handling the product in and about the plant, and is due in large part to the consistent development work of the manufacturing companies, such as the Elwell-Parker Electric Co.

It is interesting to note that the first installation of four trucks was made only a few years ago. Today the plants in the Pacific Northwest are using 36 trucks of this one make for inter-plant movement and to storage, while for shipping purposes, transportation companies are using practically a like number.

Some 40 different sizes and types of industrial trucks are built by this one company, for all sorts of work. The trucks are designed and built so that they can be powered by standard makes of storage batteries, such as the Edison, or by gas-electric units, and more recently by gasoline motor power.

The gas-electric unit consists of a four-cylinder gas engine operating a generator at constant voltage, the generator furnishing power for the travelling and lifting motors. This gives all the flexibility or motor operation plus 24-hour service, it only being necessary to keep the gas tank filled.

The Elwell-Parker company has built electrics for more than 25 years, bringing out the gas-electrics more recently. Its three-ton gas operated industrial lift truck, illustrated herewith, has just been brought out, completing the range of power. Although just offered to industry generally, the new machines have been at work for nearly two years proving themselves.

In designing this gasoline-driven unit, it has been the builders' aim to follow the most up-to-date and generally-accepted principles of automotive practice. Beginning with great simplicity of design, Elwell-Parker engineers have incorporated various advanced features, the better to adapt the new unit to specific services.

The controls, for example, are grouped within easy reach of the operator's right hand: choke, electric starting button, throttle and shift lever (two speeds forward and two reverse); while dials and indicators are immediately before him on the instrument board. The horn button is on the end of the operator's hand grip.

This arrangement permits the keeping of his hand continually on the steering wheel at his left. Steering is readily accomplished with one hand, due to high gear reduction and ball-bearing mounting and steering connections.

The throttle control merits special mention. Located beneath the

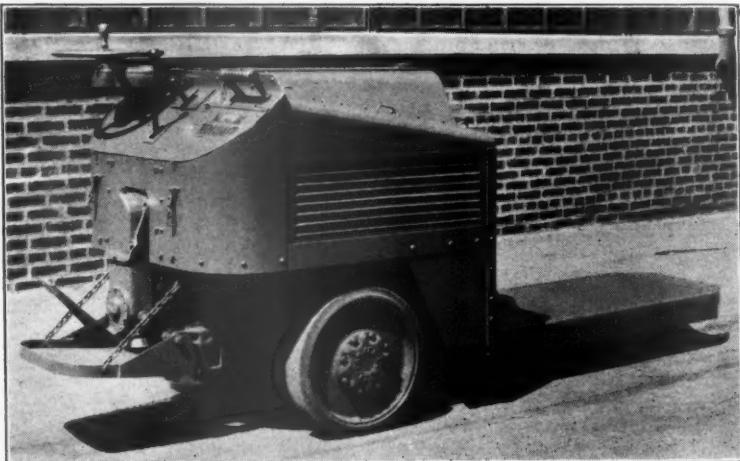
"balancing grip" by which the operator steadies himself when traveling at high speed, it puts the control of the truck literally "under the operator's thumb."

A single pedal controls both the brake and the clutch. The upper half of its motion controls the brake; the lower half controls the clutch, and tends to provide for easy and positive clutching.

Pressing down the pedal releases the brake and engages the clutch. Releasing the pedal, automatically disengages the clutch and then applies the brakes.

Brakes are set, the instant the operator steps off the platform or even lifts his foot; further protection, especially when loaded truck is standing on grades, is afforded by a special transmission gear lock.

Hydraulic type of hoist mechanism, consisting of cylinder and valve, receives fluid under pressure from pump driven directly by motor. The cylinder, through a balanced lift, elevates the platform, mounted on rocking links. Extra



The New Elwell-Parker Gas Lift Truck

PACIFIC PULP & PAPER INDUSTRY

clearance beneath the platform has been provided by placing the hoisting cylinder high in the truck. This avoids catching or folding as the truck passes over toe-plate to gang-plank or into freight car, or rides over the top of a ramp.

The maker claims unusually rapid pick-up and ample power, under instant control, for operating emergencies such as climbing steep ramps. Rugged design and stability of travel, combined with quiet performance, are also emphasized. Parts for these gas trucks are exact duplicates of those used in hundreds of Elwell-Parker proven electric and gas-electric units, and hence are interchangeable.

The Elwell-Parker machines are built with low-lift, high-lift and of the forked type, for loading cars, etc., and in sizes from 1,500 lbs. to three tons. One type of forked truck which the pulp and paper industry call the "car loader", will load a solid car of pulp or paper with one man in 40 to 60 minutes. Roll paper and newsprint can be handled as readily as flat stock.

One machine which has proved very popular, according to Mark Colby, president of the Colby Steel & Engineering Co. of Seattle who are sales engineers for the Elwell-Parker Co., is the ELB truck of 10,000 lbs. capacity, which puts the stock on skids on top of the other so that the top of the second tier is 172 inches from the floor. Machines of the same type have now been developed so that the platform or forks can travel 13 feet above the floor. It is just a question of how much floor load the buildings will permit, it being possible to pile clear to the roof.

"The trucks have proven conclusively that in practically every installation they are more flexible and more economical to operate than any other method of handling and storing pulp and paper products," Mr. Colby recently said. Mr. Colby has assisted engineers and operators of the pulp and paper industry in planning rapid and economical handling methods at reasonable capital investments for some years in the Pacific Northwest.

WM. LEE ENDORSED FOR SENATE RE-ELECTION

William H. Lee, treasurer and general manager of the Lockport Felt Co. of Newfane, N. Y., and also state senator from Niagara and Orleans counties, has been endorsed for re-nomination and re-election by the Orleans Republican County Committee.

MEASUREMENT OF WOOD

(Concluded from page 4)

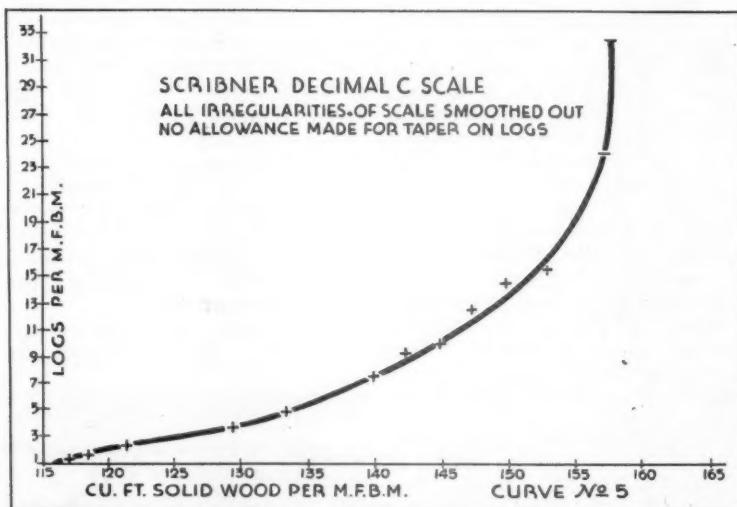
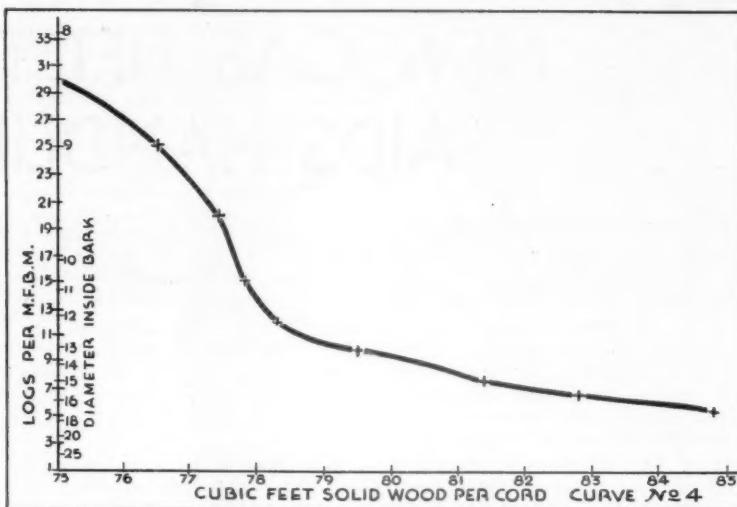
and species which may in part account for the irregular shape.

Curve No. 5 should be as good as the assumptions and precision of the plotting.

These curves are offered as a pos-

sible reason for some of the fluctuations found in pulp mill operation in which barking losses, chipping operations, cooking schedules, bleaching operations, white water losses all play a part.

No claims are made as to the accuracy of this data other than it has been taken from commercial records.



RAINIER GOLFERS WIN

The golf team from the Rainier Pulp & Paper Co. won the championship in the annual series of the Shelton Golf Club, by defeating their nearest rivals in the playoff July 1.

As a result the pulp makers will be the guest of the defeated team at a turkey dinner, to be given later in the year. Ted Munson is captain of the Rainier team.

The mill has also entered a team in the Twilight Golf League series which started July 9.

PETE ONKELS DRIVING NEW CAR

When P. J. Onkels, superintendent of the Pacific Coast Paper Mills, dropped in to look at some new cars a short time ago, he mentioned the type and color he liked best. In a few days the dealer called him in, and there was just what he wanted, although he really didn't intend to buy it. But the first thing he knew he was driving it home, having signed on the dotted line. So now he's driving a shiny new sedan that does credit to any paper maker.



THE HOME OF ALBANY FELTS

Felts For:

Leather Board
Straw Board
Box Board
Bristol Board
Tissue
Bond
Writings
Insulation Board
Mulch Paper
Straw Paper
Wrappings
Glassine
Newsprint
Cellucotton
Wall Board
Soda Pulp
Sulphite Pulp
Building Papers
Asbestos Papers
Cement Shingles
Blotting
Book
Chip Board
News Board
Cover
Kraft
Ledger
Manila
Rope
Ground Wood Pulp
Binders Board
Toweling
Condenser Paper
Bottle Cap Board
Catalogue
Envelope
Container Board
Hanging
Coating Boards
Coating Papers
Tag Board

SPECIALIZATION

Ours is a specialized business—that of making good paper machine felts. It is different from any other textile business in the world.

Our designers, spinners, weavers, research chemists, finishers, are all specialists with years of sound experience in felt making. Some of them have followed their particular line of work for 25 years.

Machinery, too, is *special*. Much of it is of our own design.

Our resources and world-wide experience have led the paper industry to bring all manner of problems to us involving the use of felts.

If you have an unusual machine condition which is bothering you, let us know about it. Perhaps we can help you.

ALBANY FELT COMPANY

ALBANY, NEW YORK

T·R·A·D·E · T·A·L·K

of those who sell paper in the western states

+++

CLEM REIS GOES TO PHOENIX

Clem Reis recently was placed in charge of the Zellerbach Paper Co. operations in Arizona, with headquarters at Phoenix. Mr. Reis, one of the best known paper men in the Southwest, has been with the Zellerbachs at Los Angeles. He succeeded E. J. Brown, resigned, at Phoenix.

NORTHWEST PAPER SALES COMPANY PROGRESSES

A new sales office for the Northwest Paper Sales Co. is being opened in Portland in the Oregon Transfer Bldg. They formerly made their headquarters in the plant of the Paper Specialty Co., which George Houk took over several months ago. Mr. Houk is still maintaining an office here and remains active in the management.

The company now has the exclusive distribution of Safe-Way Sanitary Seat Covers in Washington and Oregon. They have also taken on the line of the Welsh Paper Co. of Philadelphia, consisting of decorated parchment, cellulose, enamel flints and sveltes.

Another new line is that of the Bakers & Confectioners Paper Specialty Co., which they distribute along the entire coast.

A new man has been placed in Spokane to distribute towels, seat covers and paper specialties. He is Donald Finrow.

J. O. Edwards will cover the inter-mountain territory in Idaho, Montana and Utah.

Marshall G. Hopkins, who is in charge of the Seattle office and surrounding territory, is busily engaged in covering the field and opening up new sales outlets for the company.

INGRAM RECOVERED

Donald Ingram, head of the Ingram Paper Co. of Los Angeles, is back on the job after spending part of the early summer in the hospital following an operation.

TRADE ASSOCIATIONS HAVE NEW OFFICES

Paper trade association offices in San Francisco and Los Angeles are both in new headquarters. In Los Angeles the new secretary W. B. Reynolds has opened offices in the Higgins Building and in San Francisco H. Arthur Dunn, the local and coast secretary, are in new offices occupying an entire new wing of the fifth floor of the Robert Dollar Building. It is reported the Dollar people spent around \$3,000 preparing the new offices of the paper trade association and Mr. Dunn's legal offices.

The Dollar building is becoming increasingly popular as a paper headquarters building, for Tom MacCormack of the Strathmore Paper Co. recently moved to new offices on the fourth floor. Already in the building are B. P. Jaggard of the Hammermill Paper Co., Ned Skinner of the Martin Cantine Co. and D. L. Maxwell, coast representative of The Tissue Co.

VIC HUGHES IN CALIFORNIA

Vic Hughes, treasurer of the Pacific Coast Paper Mills, Bellingham, Wash., left recently for California for his annual vacation trip.

L. A. PAPER INDUSTRY EMPLOYMENT GAINS

The paper products industry in Los Angeles is one of the five industries showing the greatest gains in both employment and payrolls over this time a year ago.

CARTER, RICE BUSINESS IMPROVES

Business for the first six months of 1934 showed a very decided improvement over the same period in 1933, said James W. Murphy, manager of Carter, Rice Co. As one evidence of the improvement, a bonus of 5 per cent on salaries for the first six months has been given to all employes of the company at all Pacific Coast offices.

FRED FRENCH VACATIONS AT CATALINA

Fred H. French, dean of the fine paper operators of Los Angeles, is spending this summer at his place at Catalina Island. Mr. French is head of the Fred H. French Paper Co.

ENVELOPE CODE OFFICE OPENED IN L. A.

The Envelope Code Authority has opened an office in Los Angeles for its Pacific Coast operations and has placed R. W. Reed in charge. Mr. Reed will cover the Coast, which is classed as Zone Seven in the Envelope code. His office is in the Higgins building.

PAPER MEN ATTEND PRINTING CONFERENCE

A number of San Francisco and Los Angeles paper trade men attended the annual conference of the Pacific Coast Group of Printing House Craftsmen at the Mission Inn at Riverside, Calif., May 22-24, and participated in the program. One session was given over to discussion of new developments in paper and this was presided over by Victor Hecht, vice-president of the Zellerbach Paper Co. of San Francisco. Talks were made by B. P. Jaggard, San Francisco, representative of the Hammermill Paper Co. and the Grays Harbor Corporation and by Tom MacCormack, San Francisco, representative of the Strathmore Paper Co. Mr. Jaggard told of developments in sulphite papers and Mr. MacCormack in rag content papers. Mr. Jaggard reports that the paper session of the convention was one of the most interesting on the program.

Others going from San Francisco were Milton Colton of the Zellerbach Paper Co. and James Gruener of Blake, Moffitt & Towne. Among the Los Angeles paper people there were Mason Olmsted of the Zellerbach Paper Co. and Tim O'Keefe, manager of the Sierra Paper Co. and a brother of T. A. O'Keefe, San Francisco, manager of the Pacific Coast Paper Co.

PULP EXPORTS FROM THE U. S. SHOW GAIN

The United States is increasing its exports of wood pulp fairly substantially this year. While the tonnage of pulp exported from this country is comparatively small, at the same time figures compiled by the U. S. Department of Commerce show that domestic pulp producers are now shipping more pulp to foreign consumers than perhaps ever before, and that at least a moderate business is being built up for some grades of pulp, principally sulphite, in overseas markets.

During the first four months of this year, pulp exports from the United States totaled 35,167 long tons, valued at \$1,837,274, recording a considerable gain over the 20,560 tons of a declared value of \$819,516 in the corresponding period of 1933. Sulphite pulp comprised the great bulk of these exports, totaling 34,023 tons of a value of \$1,761,927 in the first four months of the current year, compared with 20,240 tons of a value of \$802,633 last year.

SWEDISH WOODPULP ANNUAL OUT

The Annual Number of the Swedish Timber and Woodpulp Journal is just issued. The text is written in the Swedish and English and also partly in the French and German languages.

For ten years such an Annual has been issued every year, intended to be a year book for the Timber, Woodpulp and Paper industries, containing market reviews for all the forest commodities, for last year, together with statistical data for exports and imports.

Among the special articles in this Annual Number, 1934, we might point out an article about the London Housing Policy by the journal's London correspondent, a description of the Timber Harbour of Leningrad, a survey of the Continental Timber Market by Doktor E. Glesinger, the German Cellulose Industry by Doktor H. C. Strohmayer, a survey of the Swedish Wallboard Industry, and finally a technical survey of news in the Northern Woodpulp and Paper Industries by Civil Engineer E. Ernstler.

The Annual, that comprises 160 pages may be ordered to the price of 3/6, postage included, at A/B Svensk Travaru-Tidning, Kungsgatan 17, Stockholm, Sweden.

ELECTRIC CLUB STUDIES PULP AND PAPER

Progress in developing a market for Pacific Coast pulp, the steadily improving quality of the output and some of the new pulp and paper products during recent years was discussed before the Electric Club of Portland on June 28.

Particular attention was called to the movement now gaining momentum for the long time planning of the development of the Pacific Coast states. It was pointed out that imports of pulp and paper into the United States are tremendous. One of the major aspects of planning is the development of use for raw materials now going to waste.

In the forest of the Pacific Coast states there is now a tremendous volume of pulp wood which is destroyed, of necessity, because of logging operations. If the manufacture of pulp in this country is encouraged, if "buy American" campaigns be waged on paper manufactured in the United States rather than imported stock, this wood that is now going to waste, can be converted into pulp, the population of the Pacific Coast increased, the number of pulp mills sanely increased and the consumption of electrical current expanded.

You Have Dirt Chased Out of Your Offices...

But—
How About the
Dirt and Rotted Wood in Your
Old Chest Equipment?

When you see dirt in your offices you are certain to have it removed. Yet, because you do not see the dirt and the rotted wood in your old chest equipment, you give them no attention with the result that trouble invariably occurs causing waste of time, labor and money.

Increased activity on this type work shows that many mill men are now recognizing these conditions and have been calling on us to repair or replace their old chest equipment due either to deterioration, inadequate capacity, or advanced manufacturing methods which necessitate modernizing or replacing of their old chest equipment.

If an examination of your chest equipment reveals need for repair or replacement, then let our sales engineer in your territory confer with you on your chest equipment requirements, without obligation.

Whether work is needed on beater, machine, stuff or agitator chests, vertical or horizontal—equipped with any type of agitating machinery, you will find our long years' experience, skillful workmanship and moderate cost will result in your complete satisfaction.

We use only the highest grade of well seasoned Gulf Cypress and Long Leaf Yellow Pine which are especially adapted for Chest use.

Your inquiry is invited.

Pacific Coast Supply Co.
Seattle—Portland—San Francisco

*Exclusive Pacific Coast Representative for the
entire line of paper mill products made by*



*A name that has won a world-wide reputation
through 75 years devoted to paper-making progress*

PULP IMPORTS INTO JAPAN SHOW BIG GAIN

Imports of wood pulp into Japan were considerably larger during the first three months of this year than in the same period a year ago, according to statistics just received through consular channels.

The total imports for the three-month period this year reached 55,050 tons, of which the United States supplied 17,476 tons, Germany 15,340 tons, Canada 9,998 tons, and Sweden 7,657 tons. Imports from the United States during the period exceeding those in the corresponding time of 1933 by 83 per cent.

ADMINISTRATOR TERMINATES STAY OF PRICING ORDER FOR PAPER DISTRIBUTING TRADE

National Recovery Administrator Hugh S. Johnson has announced the termination of a stay previously granted the paper distributing trade in connection with the administrator's order of June 7, establishing an allowance for wages of labor to be included in the selling price of merchandise.

In his present order terminating the stay, the administrator points out that a hearing will be conducted "on or before September 15," to determine whether the labor allowance provision of the code shall be extended beyond October 1, 1934, as originally provided.

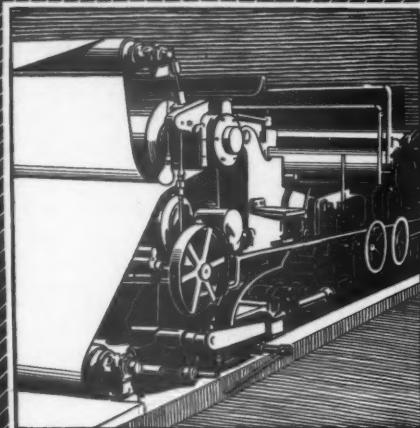
COLBY STEEL & ENGINEERING CO., SEATTLE, OPEN NEW YORK OFFICE

Announcement comes from Mark R. Colby, president of the Colby Steel & Engineering Co., that general business conditions have warranted the opening of a New York office in connection with Mr. J. S. Carswell. The address of the New York office is No. 15 Park Row, and the telephone number is BArclay 7-2487.

Mr. Carswell is an engineer well and favorably known all along the Atlantic seaboard, having specialized for many years in cargo handling equipment and marine machinery. He was one of the prime movers in developing the present high speed electric cargo winches, cranes and derricks for material handling, even going so far afield as to have had a very active and interesting part in working with certain designs and details of mooring masts for dirigibles.

Mr. Carswell has worked with the Colby Steel & Engineering Co. for a number of years on the sale and installation of the Barlow Marine Elevators and Colby Material Handling Cranes for cargo, dock and lumber storage work. In connection with the Colby company he has made some very interesting Barlow Marine Elevator installations for some of the more prominent docks and shipping companies along the Atlantic seaboard. The Barlow elevators are of a special design covered by a number of patents for handling cargo to and from boats and barges to wharves or warehouses.

These installations, both along the Pacific and the Atlantic Coast and the Mississippi Valley have achieved records for the safe and rapid handling of cargo which are outstanding; and there is predicted for this company a very successful business, as it is apparent that many of the older docks and warehouses must be modernized to meet present day conditions.

**Watch Your Felts**

Five years ago a few thousand dollars more or less for felts in a year's time made little difference. Today, with every mill struggling with conversion costs, even dimes count.

That is why it is so necessary that felt problems receive careful study — why the care of felts looms important — why the expenditure of more for felts than skillful operation requires, becomes almost a tragedy.

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